

REMARKS

Claims 1, 3-9, 20-24, and 26-35 stand rejected under 35 U.S.C. § 103(a) as unpatentable over “Dynamic Virtual Clusters in a Grid Site Manager” by Chase et al. (Chase) in view of US Publication 2003/0208523 by Gopalan et al. (Gopalan).

Amendments to the Specification

Applicants have amended paragraph 62 of the specification. The amendment is well supported by figure 5, ref. 510.

Amendments to the Claims

Applicants have amended claim 1 with the limitation “...an operational control parameter of a system resources comprising client processor capacity, client storage capacity, and client memory capacity allocated to of the grid computing system...” and “...wherein a plurality of clients both provide the system resources and employ the system resources and the plurality of system policies comprises a system prediction policy....” The amendment is well supported by the specification on page 9, ¶ 33 and original claim 4. Claim 1 is further amended with the limitation “...autonomically adjustregulate the system resource allocated to the grid computing system from a client in response to the anticipated change in the data flow....” The amendment is well supported by the specification on page 21, ¶ 74. In addition, claim 1 is amended with the limitation “...modify a client fee for participation in the grid computing system in response to the adjustment....” The amendment is well supported by the specification on page 23, ¶ 81.

Claims 20, 23, 24, and 30 are similarly amended. Claims 4 and 31-34 are canceled. Claims 6, 8 22, 27, and 29 are amended to conform to amended predecessor

claims. Applicants have also added new claims 36-40. The new claims are well supported by the specification on pages 17-18, ¶ 62; page 22, ¶ 75; and page 23, ¶ 80.

Applicants are not conceding that the claims amended and canceled are not patentable over the art cited by the Examiner, as the present claim amendments and cancellations are only for facilitating expeditious prosecution. Applicants respectfully reserve the right to pursue these and other claims in one or more continuation and/or divisional patent applications.

Response to rejection under 35 U.S.C. § 103

Claims 1, 3-9, 20-24, and 26-35 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chase in view of Gopalan. Applicants submit that claims 1, 20, 23, 24, and 30 are patentable over Chase and Gopalan in view of the *Graham v. John Deere* standard of patentability. See MPEP § 2141, *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966). Claim 1 is representative of independent claims 20, 23, 24, and 30.

Scope and Contents of the Prior Art

Chase teaches dynamic resource management for clusters in a grid. A Virtual Cluster Manager (VCM) server invokes resize function every epoch seconds, which requests nodes for queued jobs and relinquishes idle nodes. Chase, § 4. User identities are established for users employing a batch pool of nodes. Chase § 4.

Gopalan (2003/0208523) teaches static and dynamic load analysis of a network. Gopalan, abstract. Gopalan discloses analyzing historic traffic patterns of critical Service Level Agreement (SLA) to determine the load for each SLA. Gopalan, page 2, ¶ 19.

Gopalan determines an overload condition based on forecast load and trend information.

Gopalan, 3 ¶ 30, page 8, ¶ 181.

Differences Between the Prior Art and the Claims

Claim 1 as amended includes the limitations:

“...a storage device storing executable code;

a processor executing the executable code, the executable code comprising:

a monitor module configured to monitor the grid computing system for a

predictive trigger event comprising an anticipated change in data flow based on collected historical information;

a policy module configured to access one of a plurality of system policies, each of the plurality of system policies corresponding to an operational control parameter of system resources comprising client processor capacity, client storage capacity, and client memory capacity allocated to the grid computing system, wherein **a plurality of clients both provide the system resources and employ the system resources** and the plurality of system policies comprises a system prediction policy; and

a regulation module configured to autonomically adjust a system resource allocated to the grid computing system from a client in response to the anticipated change in the data flow and **modify a client fee for participation in the grid computing system in response to the adjustment.**” Emphasis added.

Independent claims 20, 23, 24, and 30 include similar limitations. Applicants submit that claim 1 is patentably distinguished from the combination of Chase and Gopalan by claiming “...a plurality of clients both provide the system resources and employ the system resources ...” and “...modify a client fee for participation in the grid

computing system in response to the adjustment....” The Examiner notes that Chase teaches user identities for users that are eligible to use a batch pool. Office Action of April 15, 2011 (OA), page 6, ¶ 13; citing Chase, § 4 and 5.2.

Applicants submit that Chase does not disclose “...a plurality of clients both provide the system resources and employ the system resources” Instead Chase teaches away from this element by disclosing a single physical cluster that is managed by Virtual Cluster Managers. Chase, Figure 1. In Chase and Gopalan, cluster resources are employed by clients *but not provided by clients*.

The Examiner also notes that Gopalan discloses revenue enhancement, managing bandwidth to meet service level agreements. OA, page 9, ¶ 19; citing Gopalan, ¶ 2, 3, 7, 19, 20, and 22. Applicants submit that Gopalan does not teach “...modify a client fee for participation in the grid computing system in response to the adjustment....” Gopalan does not teach modifying a client fee because of an adjustment in client resources contributed to a grid system because as discussed above, Gopalan does not teach clients providing system resources. Chase also does not teach this element.

Applicants therefore submit that the combination of Chase and Gopalan do not teach the elements “...a plurality of clients both provide the system resources and employ the system resources ...” and “...modify a client fee for participation in the grid computing system in response to the adjustment...” recited for claim 1.

Level of Ordinary Skill in the Pertinent Art

Chase and Gopalan are exemplary of the level of ordinary skill in the art at the time of the present invention. As discussed above, the combination of Chase and Gopalan do not disclose the elements “...a plurality of clients both provide the system

resources and employ the system resources ...” and “...modify a client fee for participation in the grid computing system in response to the adjustment...” recited for claim 1. Applicants therefore submit that the elements of claim 1 are not of the level of ordinary skill in the art at the time of the present invention.

Secondary Considerations

While Applicants respectfully reserve the right to present evidence of commercial success or other secondary factors at a later date if necessary, the discussion above, the fact that no one in the art of autonomic control of grid system resources has taught or disclosed the claimed invention shows at least a long-felt need in the art and unexpected results, indicating non-obviousness.

Because the combination of Chase and Gopalan do not teach each element of claim 1, because the level of ordinary skill in the art at the time of the present invention did not support the elements of claim 1, and because of the secondary considerations, Applicants submit that the Graham Factor analysis leads to a clear conclusion that claim 1 is non-obvious and allowable. Applicants further submit that independent claims 20, 23, 24, and 30 are non-obvious and allowable for the same reasons, and that claims depending from claims 1, 20, 23, 24, and 30 are allowable as depending from allowable claims.

CONCLUSION

As a result of the presented remarks and amendments, Applicants assert that the application is in condition for prompt allowance. Should additional information be

required regarding the traversal of the rejections of the claims enumerated above, Examiner is respectfully asked to notify Applicants of such need. If any impediments to the prompt allowance of the claims can be resolved by a telephone conversation, the Examiner is respectfully requested to contact the undersigned.

Respectfully submitted,

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8 East Broadway, Suite 600
Salt Lake City, Utah 84111
(801) 994-4646 voice
(801) 531-1929 fax

/Brian C. Kunzler/

Brian C. Kunzler
Reg. No. 38,527